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Idaho Basin Outlook Report

February 1, 2002

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Crater Meadows SNOTEL Site, North Fork Clearwater River Basin, Idaho

Basin Outlook Reports

and

Federal - State - Private Cooperative Snow Surveys

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Internet Web Address

<http://idsnow.id.nrcs.usda.gov/>

How forecasts are made

Most of the annual streamflow in the western United States originates as snowfall that has accumulated in the mountains during the winter and early spring. As the snowpack accumulates, hydrologists estimate the runoff that will occur when it melts. Measurements of snow water equivalent at selected manual snow courses and automated SNOTEL sites, along with precipitation, antecedent streamflow, and indices of the El Niño / Southern Oscillation are used in computerized statistical and simulation models to prepare runoff forecasts. These forecasts are coordinated between hydrologists in the Natural Resources Conservation Service and the National Weather Service. Unless otherwise specified, all forecasts are for flows that would occur naturally without any upstream influences.

Forecasts of any kind, of course, are not perfect. Streamflow forecast uncertainty arises from three primary sources: (1) uncertain knowledge of future weather conditions, (2) uncertainty in the forecasting procedure, and (3) errors in the data. The forecast, therefore, must be interpreted not as a single value but rather as a range of values with specific probabilities of occurrence. The middle of the range is expressed by the 50% exceedance probability forecast, for which there is a 50% chance that the actual flow will be above, and a 50% chance that the actual flow will be below, this value. To describe the expected range around this 50% value, four other forecasts are provided, two smaller values (90% and 70% exceedance probability) and two larger values (30%, and 10% exceedance probability). For example, there is a 90% chance that the actual flow will be more than the 90% exceedance probability forecast. The others can be interpreted similarly.

The wider the spread among these values, the more uncertain the forecast. As the season progresses, forecasts become more accurate, primarily because a greater portion of the future weather conditions become known; this is reflected by a narrowing of the range around the 50% exceedance probability forecast. Users should take this uncertainty into consideration when making operational decisions by selecting forecasts corresponding to the level of risk they are willing to assume about the amount of water to be expected. If users anticipate receiving a lesser supply of water, or if they wish to increase their chances of having an adequate supply of water for their operations, they may want to base their decisions on the 90% or 70% exceedance probability forecasts, or something in between. On the other hand, if users are concerned about receiving too much water (for example, threat of flooding), they may want to base their decisions on the 30% or 10% exceedance probability forecasts, or something in between. Regardless of the forecast value users choose for operations, they should be prepared to deal with either more or less water. (Users should remember that even if the 90% exceedance probability forecast is used, there is still a 10% chance of receiving less than this amount.) By using the exceedance probability information, users can easily determine the chances of receiving more or less water.

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IDAHO WATER SUPPLY OUTLOOK REPORT

February 1, 2002

SUMMARY

January precipitation varied across the state with the Panhandle Region receiving 147% of average while the Bear River basin received only 63% of average. As a result, snowpack percentages increased about 10 percentage points in the Panhandle Region to about 110% of average and decreased about 20 percentage points in the Bear River to 85%. Elsewhere in the state, January precipitation was near to below normal and kept snowpack percentages the same as a month ago or slightly less. The lowest snowpacks are about 83% of average along eastern Idaho from the Lemhi basin down to the Bear River basin. Streamflow forecasts mirrored January precipitation and increased in northern Idaho and decreased in the Bear River basin. The highest forecasts are about 115% of average in the Panhandle Region. The lowest forecasts are in the Bear River and the Snake River below Milner Dam at about 65% of average.

Members of the Idaho Water Supply Committee discussed after January's streamflow forecasts were released that the federally operated reservoirs in the Payette and Boise basins would fill with the projected near normal streamflow forecasts. However, the upper Snake reservoirs would probably not fill with below normal streamflows. It is important to keep in mind that a near normal snowpack does not always mean normal streamflow. Spring precipitation is often the last piece of the water supply puzzle and can make or break a streamflow forecast, especially in southern Idaho. NRCS uses the most current data as variables in their multiple regression streamflow forecasts procedures. Future precipitation variables are not used, however, the equations assume normal future precipitation. Normal spring precipitation is often needed to produce the "Most Probable" or 50% Chance of Exceeding Forecast. Above to well above normal precipitation will often produce the 30% or 10% Chance of Exceeding Forecast, while below normal spring precipitation results in the 90% or 70% Chance of Exceeding Forecast. Additional information on interpreting streamflow forecast is available on the NRCS Home Page at: <http://idsnow.id.nrcs.usda.gov/snow/water.htm>. These scenarios were recently observed when well above normal spring precipitation fell in 1997 in the upper Snake and in contrast, in 2000 and 2001 when below normal spring precipitation fell across southern Idaho.

Stay tuned, with February 1 snow water content at normal or below normal levels across central Idaho, especially in the higher elevations, the results of this year's snowmelt runoff may remain unclear and depend upon spring precipitation as the final puzzle piece of the water supply picture. With less than half the winter still to come, the water supply outlook could still change for the better or worse.

SNOWPACK

Idaho's snowpacks range from 80-110% of average for the majority of basins. A few exceptions are: the low elevations snowpacks in the Rathdrum, Palouse, Canyon, Owyhee, Camas, Fish, Raft and Malad basins that are 130-175% of average and the high desert streams of Bruneau, Salmon Falls and Oakley that are about 125% of average. The lowest snowpacks in the state are 83% of average in the Lemhi River basin, headwater tributaries of the Snake River in Wyoming, and Bear River basin in Idaho, Utah and Wyoming. This year's snow water content amounts have exceeded last year's peak amounts, but the amount of snow currently on the ground is only 50-80% of the peak amount that occurs in early April. Don't let the well above average low elevation snow fool you. Two high elevation SNOTEL sites - Deadwood Summit along the Payette and Salmon basin divide, and Lewis Lake Divide in the headwaters of the Snake River - each need about 2 inches of snow water equivalent (20 inches of new snowfall) each week for the next 10 weeks to reach normal snow water levels by early April. It has happened in the past, so we'll keep our fingers crossed and hope for more snow.

PRECIPITATION

January brought abundant moisture to the Panhandle Region and Clearwater basin, 147% and 130% of average respectively. Some stations received more than four times the amount that fell last January. Elsewhere, January precipitation ranged from a low 63% of average in the Bear River to 92% in the Salmon River basin. Water year to date precipitation ranges from a high of 126% of average in the Panhandle Region to about 92% in the upper Snake and Bear river basins. The 30 and 60-day extended precipitation outlook for Idaho and the Pacific Northwest provided by the National Weather Service remains the same - climatology - which means there is an equal chance (33 percent chance) for each category (above normal, normal, or below normal) to occur. The 30-day forecast for temperature is also for climatology. The February-April 90-day temperature forecast is for above normal temperatures for most of the West.

RESERVOIRS

Reservoir storage basically remains low and unchanged from a month ago. Only Coeur d'Alene, Priest, Dworshak and Brownlee lakes/reservoirs are reporting near or above average storage for January 31. The lowest reservoirs in Idaho are storing only 20-50% of their average January 31 storage; these include Magic, Jackson Lake, Palisades, Oakley, Salmon Falls and Owyhee reservoirs. The combined storage for Jackson and Palisades reservoirs is 635,500 acre-feet. This is the lowest January 31 storage since January 1993 and the 3rd lowest since 1958.

Note: NRCS reports reservoir information in terms of usable volumes, which includes both active, inactive and in some cases dead storage. Other operators may report reservoir contents in different terms. For additional information, see the reservoir definitions in this report.

STREAMFLOW

Most streams have been flowing at 60-90% of their normal monthly average amounts since at least October. Fall streamflow is used as a forecasting variable in some basins to reflect soil moisture conditions going into the winter. Spring and summer streamflow forecasts increased in northern Idaho, remained the same across central Idaho, and decreased slightly in eastern and southern Idaho when compared to last month's forecasts. For the majority of Idaho, streamflow forecasts range from 80-105% of average. The lowest forecasts are 65% of average in the Bear River and Snake River below Milner Dam. The highest forecasts are 115% of average in the Panhandle Region. Water users should continue to monitor snowpack conditions closely the next two months, as abundant February moisture can still increase the snow levels and streamflow projections. This happened in 1986 with the "Pineapple Express." But lack of moisture in March and April like what occurred in 1985 in the Boise basin, will close the snow season at below normal levels.

RECREATION

January started clear and dry, and the majority of January's precipitation fell during a 10-day period in mid-January bringing 3-4 feet of new snow to some snow measuring sites in northern Idaho. Temperatures as cold as -25 degrees Fahrenheit were recorded at several SNOTEL sites near the end of January. Cold temperatures, especially in eastern Idaho and western Wyoming, have kept the snowpack light and fluffy with very few layers in the snow. Rain in mid-January up to 6,300 feet in elevation created an ice layer around the Boise mountains. Snow conditions vary across the state and with elevation. The river running season is starting to shape-up well, especially in northern Idaho. Stay tuned as conditions can still change for the better or worse with about 40% of winter season still to come.

WHAT'S NEW?!

Need Snow Load Information?

Check out the "Snow Load Information and Calculation Procedure" on our Snowpack Information Web page at <http://idsnow.id.nrcs.usda.gov/snow/mss.htm>. The information on this page will tell you how to use the closest SNOTEL site to calculate the ground snow load in pounds/square feet. The NRCS Snow Survey office has received numerous calls this year from the public, hospitals, building code departments, and cabin/home owners about concerns of the snow load on their structures. The above average low elevation snow and 20-30 inches of new snowfall in one weekend in the Sun Valley area makes the phone ring. Most people were relieved to know that the snow water content and associated snow load isn't that large when compared to a year like 1997 that had near record high snow levels in mid-January. Historic first of month snow water equivalent data is also available on the above page under "Historic First of Month Snow Course and SNOTEL Data - Table Format -- All IDAHO Active And Discontinued Sites". This data can assist the user in determining historic snow loads and other times when they may have to shovel their roofs.

IDAHO SURFACE WATER SUPPLY INDEX (SWSI) As of February 1, 2002

The Surface Water Supply Index (SWSI) is a predictive indicator of surface water availability within a watershed for the spring and summer water use season. The index is calculated by combining pre-runoff reservoir storage (carryover) with forecasts of spring and summer streamflow. SWSI values are scaled from +4.1 (abundant supply) to -4.1 (extremely dry), with a value of zero indicating a median water supply as compared to historical occurrences.

SWSI values are published January through May and provide a more comprehensive outlook of water availability than either streamflow forecasts or reservoir storage figures alone. The SWSI index allows comparison of water availability between basins for drought or flood severity analysis. Threshold SWSI values have been established for most basins to indicate the potential for agricultural water shortages.

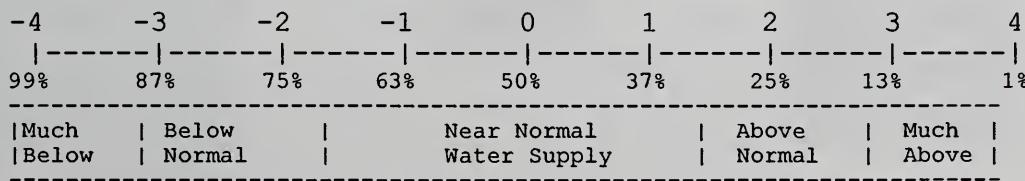
The following agencies and cooperators provide assistance in the preparation of the Surface Water Supply Index for Idaho:

US National Weather Service
US Bureau of Reclamation
Idaho Water Users Association

US Army Corps of Engineers
Idaho Dept. of Water Resources
PacifiCorp

<i>BASIN or REGION</i>	<i>SWSI Value</i>	<i>Most Recent Year With Similar SWSI Value</i>	<i>Agricultural Water Supply Shortage May Occur When SWSI is Less Than</i>
PANHANDLE	-1.2	1990/91	NA
CLEARWATER	1.9	1999	NA
SALMON	0.0	1998	NA
WEISER	0.6	1980	NA
PAYETTE	-0.1	1976	NA
BOISE	-0.1	2000	-2.6
BIG WOOD	-1.2	2000	-1.4
LITTLE WOOD	0.0	1996	-2.6
BIG LOST	-1.1	1985	-0.8
LITTLE LOST	-0.8	1996	0.0
HENRYS FORK	-1.5	1979	-3.3
SNAKE (AMERICAN FALLS)	-1.9	1991	-2.0
OAKLEY	-0.6	1995	0.0
SALMON FALLS	-0.3	2000	0.0
BRUNEAU	1.0	1996	NA
OWYHEE	-0.9		NA
BEAR RIVER	-2.9	2001	-3.8

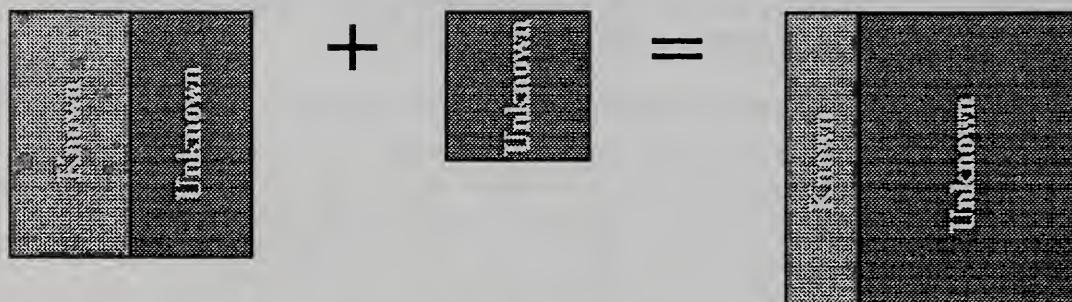
SWSI SCALE, PERCENT CHANCE OF EXCEEDANCE, AND INTERPRETATION



Note: The Percent Chance of Exceedance is an indicator of how often a range of SWSI values might be expected to occur. Each SWSI unit represents about 12% of the historical occurrences. As an example of interpreting the above scale, the SWSI can be expected to be greater than -3.0, 87% of the time and less than -3.0, 13% of the time. Half the time, the SWSI will be below and half the time above a value of zero. The interval between -1.5 and +1.5 described as "Near Normal Water Supply," represents three SWSI units and would be expected to occur about one-third (36%) of the time.

**Snow
Water
Content** **Spring and
Summer
Rainfall** **Factors
Affecting
Streamflow
Volumes**

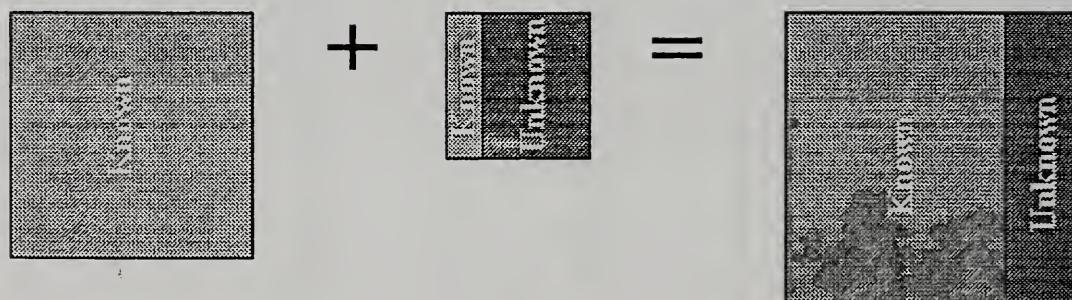
Jan 1



Mar 1



Apr 1



May 1

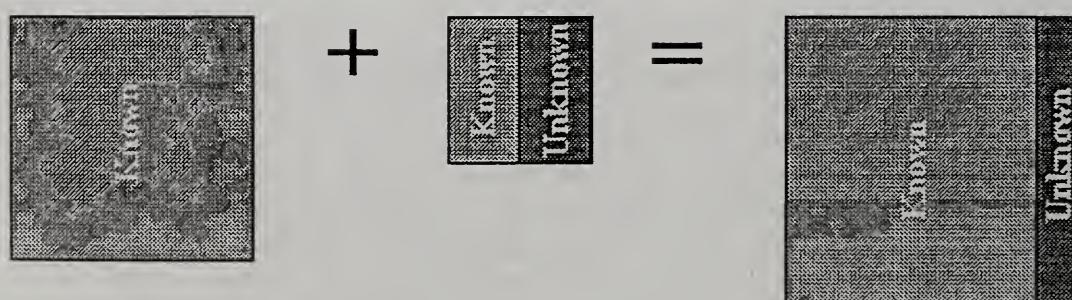
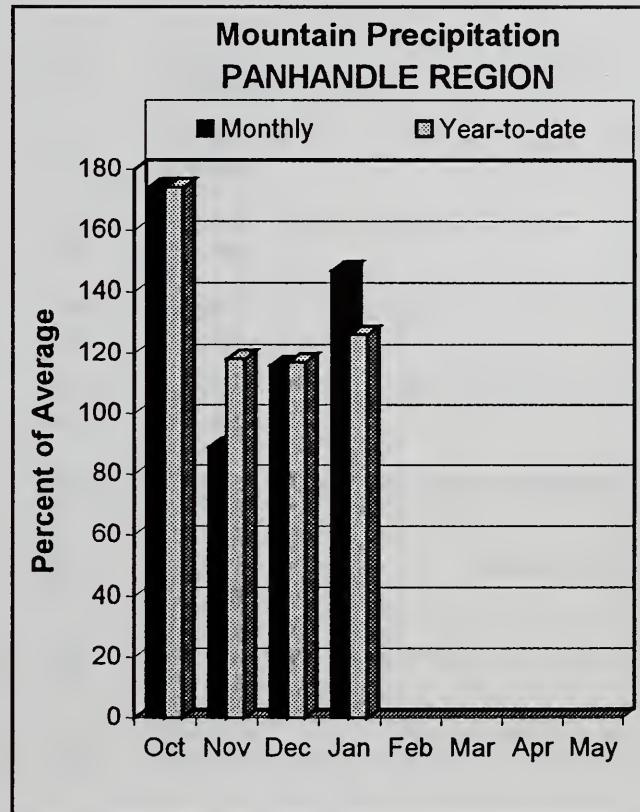
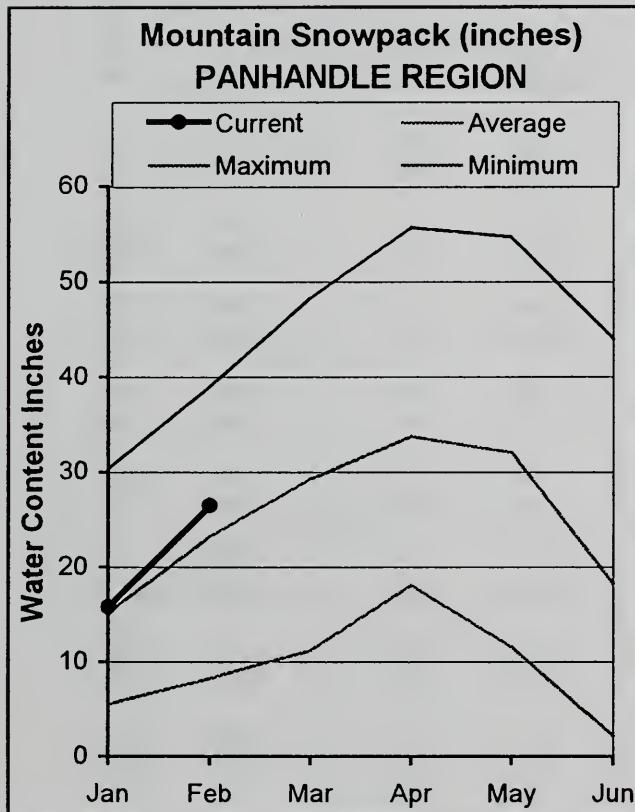


Figure 1. Example of the relationship between known and unknown input data for streamflow forecasts over time.

PANHANDLE REGION

FEBRUARY 1, 2002



WATER SUPPLY OUTLOOK

The Panhandle Region received the highest January precipitation in the state, 147% of average. January precipitation amounts were three to six times the amounts that fell last January. Bear Mountain January precipitation was 22.2 inches, last January only 3.2 inches fell. Average for January is 14.6 inches. Water year to date precipitation is the highest in the state at 126% of average. Last year the precipitation for the entire water year (October 1, 2000 - September 30, 2001) was only 59% of average for the 12 SNOTEL stations in the Panhandle Region. These same 12 SNOTEL stations have already exceeded the amount that fell all of last year! Snowpack percentages increased 5-15 percentage points from a month ago for most Panhandle basins. The large and important Pend Oreille basin increased 12 percentage points to 98% of average. Elsewhere, snowpack percentages range from 104% of average in the Kootenai and Moyie basins to 128% in the Spokane basin and 158% in the low elevation Rathdrum basin. Pend Oreille Lake storage is 77% of average, while Coeur d'Alene and Priest lakes are normal or better. Streamflow forecasts call for a range from 105-120% of average for these northern Idaho streams.

PANHANDLE REGION
Streamflow Forecasts - February 1, 2002

Forecast Point	Forecast Period	Future Conditions						30-Yr Avg. (1000AF)
		<<===== Drier =====		Chance Of Exceeding *		Wetter =====>>		
		90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)	
KOOTENAI at Leonia (1,2)	APR-JUL	5417	6268	6655	97	7042	7893	6850
	APR-SEP	6428	7296	7690	97	8084	8952	7940
MOYIE RIVER at Eastport	APR-JUL	371	403	425	105	447	479	405
	APR-SEP	384	417	440	105	463	496	420
SMITH CREEK	APR-JUL	101	116	127	103	138	153	123
	APR-SEP	103	120	132	102	144	161	129
BOUNDARY CREEK	APR-JUL	107	122	132	107	142	157	123
	APR-SEP	114	129	139	108	149	164	129
CLARK FK at Whitehorse Rpd (1,2)	APR-JUL	6862	9226	10300	90	11374	13738	11400
	APR-SEP	7517	10119	11300	90	12481	15083	12500
PEND OREILLE Lake Inflow (2)	APR-JUL	8640	10396	11590	91	12784	14540	12700
	APR-SEP	8443	10924	12610	91	14296	16777	13900
PRIEST near Priest River (1,2)	APR-JUL	696	805	855	106	905	1014	810
	APR-SEP	737	856	910	105	964	1083	865
COEUR D'ALENE at Enaville	APR-JUL	687	799	875	118	951	1063	740
	APR-SEP	726	842	920	118	998	1114	780
ST. JOE at Calder	APR-JUL	1087	1220	1310	115	1400	1533	1140
	APR-SEP	1160	1297	1390	116	1483	1620	1200
SPOKANE near Post Falls (2)	APR-JUL	2478	2824	3060	120	3296	3642	2550
	APR-SEP	2584	2939	3180	120	3421	3776	2650
SPOKANE at Long Lake (2)	APR-JUL	2702	3100	3370	118	3640	4038	2850
	APR-SEP	2925	3342	3626	118	3910	4327	3070

PANHANDLE REGION
Reservoir Storage (1000 AF) - End of January

PANHANDLE REGION
Watershed Snowpack Analysis - February 1, 2002

Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
HUNGRY HORSE	3451.0	2503.0	2370.0	2214.7	Kootenai ab Bonners Ferry	24	217	105
FLATHEAD LAKE	1791.0	1181.0	748.0	971.2	Moyle River	11	187	102
NOXON RAPIDS	335.0	320.3	301.1	310.9	Priest River	4	219	115
PEND OREILLE	1561.3	577.0	740.7	749.3	Pend Oreille River	68	181	97
COEUR D'ALENE	238.5	115.0	28.1	115.6	Rathdrum Creek	4	212	158
PRIEST LAKE	119.3	63.7	48.0	55.5	Hayden Lake	0	0	0
					Coeur d'Alene River	5	202	113
					St. Joe River	3	258	117
					Spokane River	11	217	128
					Palouse River	1	173	146

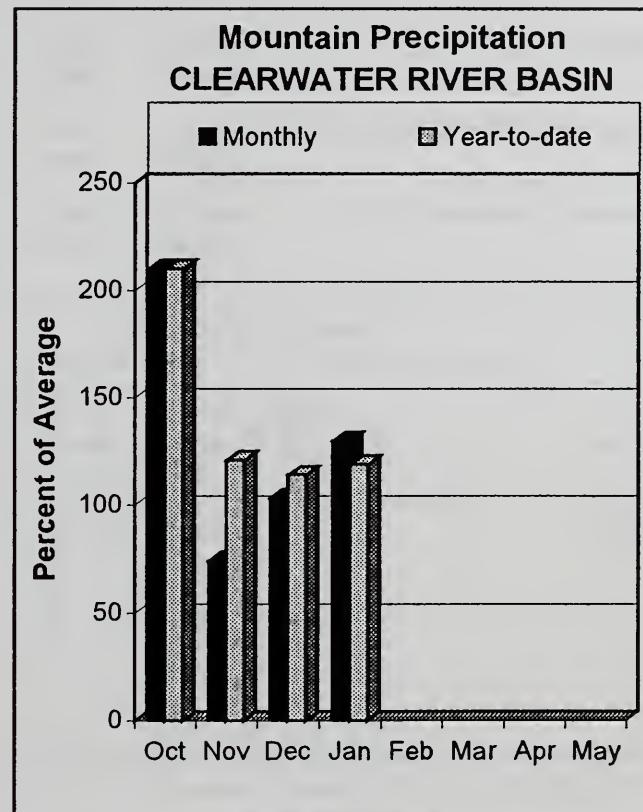
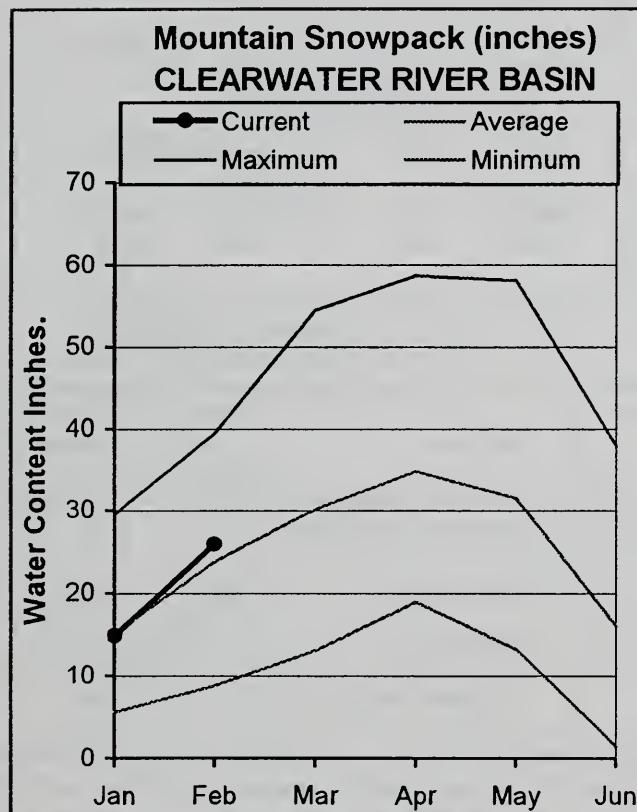
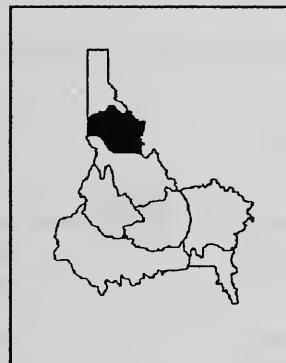
* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1971-2000 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
(2) - The value is natural flow - actual flow may be affected by upstream water management.

CLEARWATER RIVER BASIN

FEBRUARY 1, 2002



WATER SUPPLY OUTLOOK

The Clearwater and Panhandle Region received the highest January precipitation in the state, 130% and 147% of average respectively. January precipitation amounts ranged from 5-17 inches. Last year, January amounts were in the 2-5 inch range. Average amounts are in the 5-12 inch range. As a result, snowpack percentages also increased 10-20 percentage points during January. Snowpacks are currently 96% of average in the Lochsa River; 99% in the Selway River; and 112% in the North Fork Clearwater River. Overall, the Clearwater River snowpack is 107% of average, up 11 percentage points from a month ago. Dworshak Reservoir is 69% of capacity, 111% of average, and is one of only a few reservoirs/lakes in the state with above average storage. Streamflow forecasts increased from last month. The Selway River and Lochsa River are forecast at 97% of average. Dworshak Reservoir inflow is forecast at 114% of average, while the Clearwater River at Spalding are forecast at 114% of average. More snow is still needed because the snowpack is only 73% of its normal peaks that occur in early April.

CLEARWATER RIVER BASIN
Streamflow Forecasts - February 1, 2002

Forecast Point	Forecast Period	<===== Drier ===== Future Conditions ===== Wetter =====>					
		Chance Of Exceeding *		50% (Most Probable)		30% 10%	
		90% (1000AF)	70% (1000AF)	(1000AF) (% AVG.)	(1000AF)	(1000AF)	(1000AF)
SELWAY near Lowell	APR-JUL	1690	1873	1997	97	2121	2304
	APR-SEP	1776	1972	2105	97	2238	2434
LOCHSA near Lowell	APR-JUL	1260	1392	1481	97	1570	1702
	APR-SEP	1333	1468	1560	97	1652	1787
DWORSHAK RESV INFLOW (1,2)	APR-JUL	2240	2763	3000	114	3237	3760
	APR-SEP	2409	2946	3190	114	3434	3971
CLEARWATER at Orofino (1)	APR-JUL	3983	4703	5030	108	5357	6077
	APR-SEP	4199	4963	5310	108	5657	6421
CLEARWATER at Spalding (1,2)	APR-JUL	6663	7864	8410	114	8956	10157
	APR-SEP	7167	8345	8880	113	9415	10593
							2060
							2170

CLEARWATER RIVER BASIN					CLEARWATER RIVER BASIN				
Reservoir Storage (1000 AF) - End of January					Watershed Snowpack Analysis - February 1, 2002				
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of		
		This Year	Last Year	Avg			Last Yr	Average	
DWORSHAK	3468.0	2405.2	2086.4	2170.7	North Fork Clearwater	9	221	112	
					Lochsa River	4	187	96	
					Selway River	5	180	99	
					Clearwater Basin Total	18	202	107	

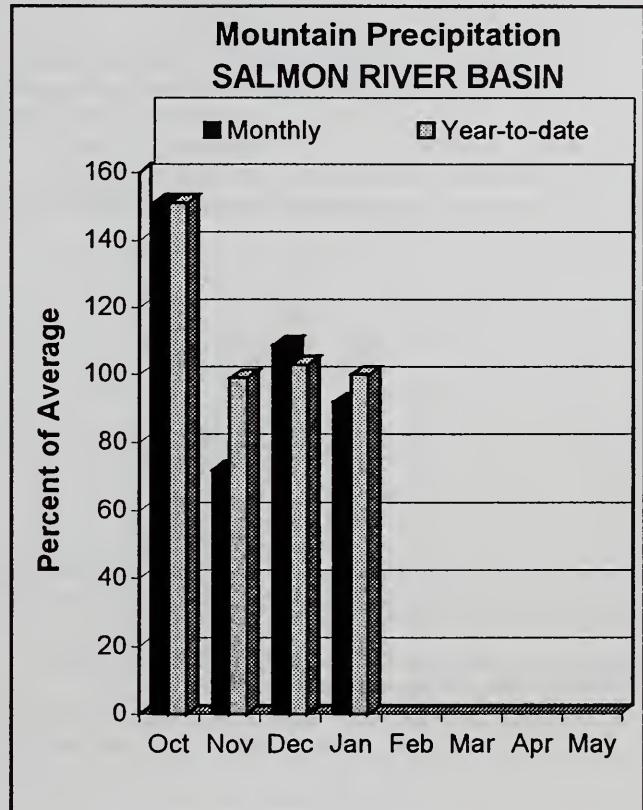
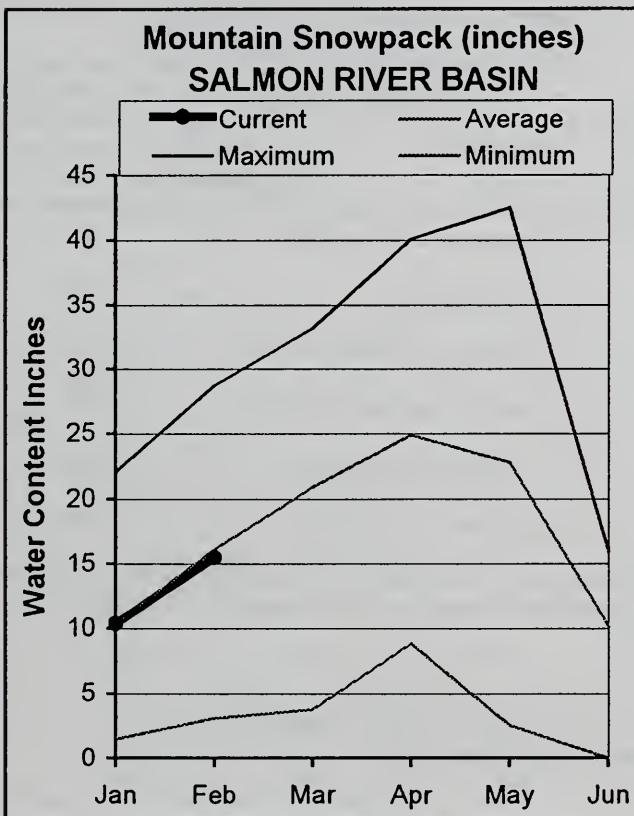
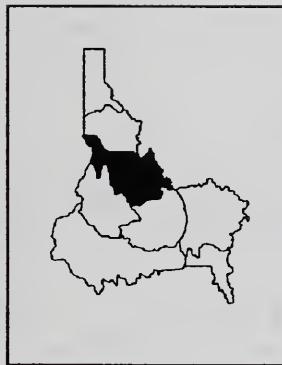
* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1971-2000 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
 (2) - The value is natural flow - actual flow may be affected by upstream water management.

SALMON RIVER BASIN

FEBRUARY 1, 2002



WATER SUPPLY OUTLOOK

January precipitation was 92% of average. Precipitation since the water year started October 1 is normal. Snowpack percentages are about the same as a month ago. The Little Salmon basin is the only Salmon River tributary reporting above average snow water content levels, 105% of average. The lowest snowpack in the state is in the Lemhi basin, 80% of average, a result of the lack of storms moving across Idaho and into Montana. The Middle Fork Salmon River basin is 92% of average. Overall, the Salmon River snowpack is 93% of average. The Salmon River at Salmon and Salmon River at White Bird are forecast at 95% of average. February can still be a big precipitation month. Five out of 13 years with a similar February 1 snowpack, the season ended with normal snow levels on April 1. Keep those fingers crossed and hope for more storms.

SALMON RIVER BASIN
Streamflow Forecasts - February 1, 2002

Forecast Point	Forecast Period	<===== Drier ===== Future Conditions ===== Wetter =====>						30-Yr Avg. (1000AF)	
		Chance Of Exceeding *							
		90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)		
SALMON at Salmon (1)	APR-JUL	562	734	812	95	890	1062	855	
	APR-SEP	684	874	960	96	1046	1236	1000	
SALMON at White Bird (1)	APR-JUL	3983	5064	5555	95	6046	7127	5850	
	APR-SEP	4513	5694	6230	96	6766	7947	6480	

SALMON RIVER BASIN				SALMON RIVER BASIN				
Reservoir Storage (1000 AF) - End of January				Watershed Snowpack Analysis - February 1, 2002				
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of Last Yr Average	
		This Year	Last Year	Avg				
					Salmon River ab Salmon	9	168	89
					Lemhi River	6	122	80
					Middle Fork Salmon River	3	210	92
					South Fork Salmon River	3	217	95
					Little Salmon River	4	226	105
					Salmon Basin Total	24	178	93

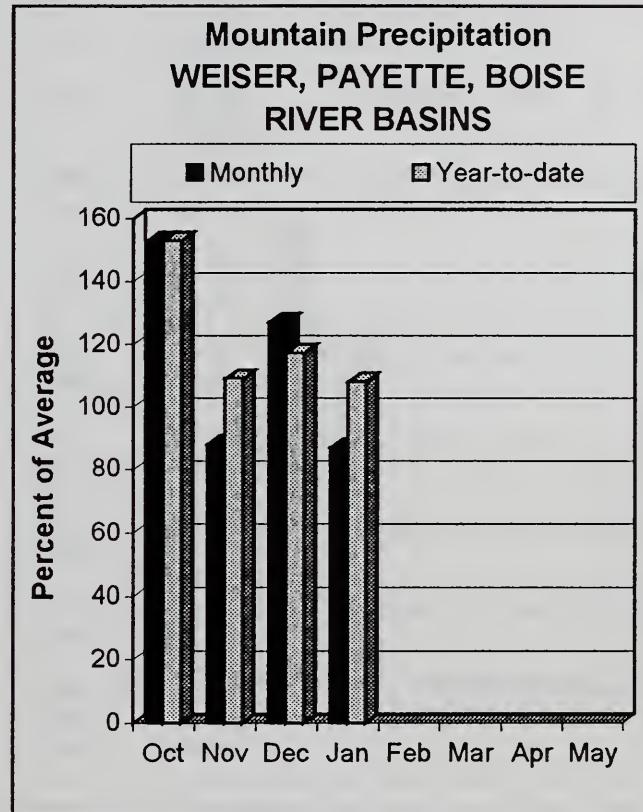
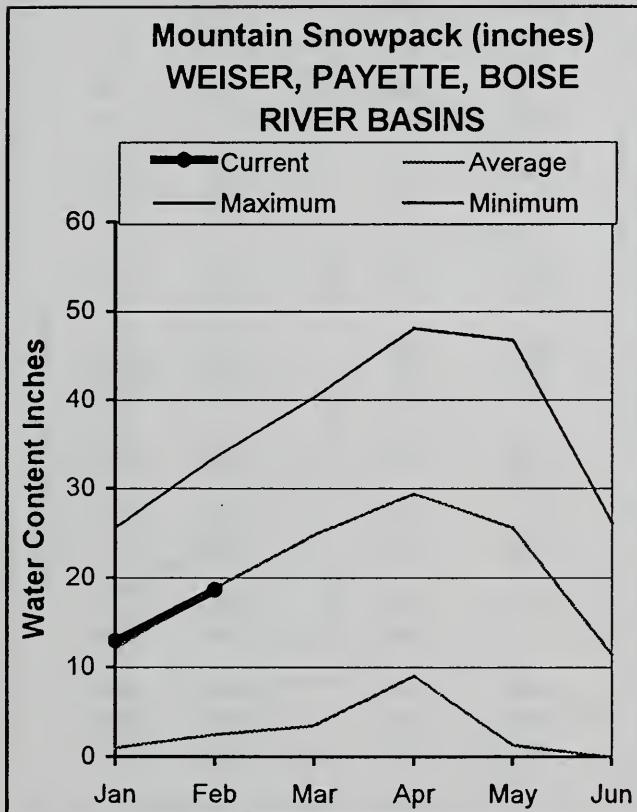
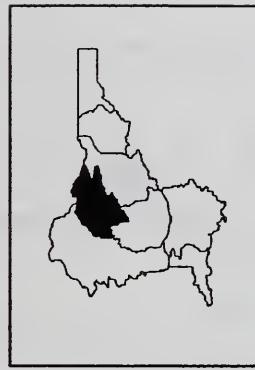
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The average is computed for the 1971-2000 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
 (2) - The value is natural flow - actual flow may be affected by upstream water management.

WEISER, PAYETTE, BOISE RIVER BASINS

FEBRUARY 1, 2002



WATER SUPPLY OUTLOOK

Precipitation was 87% of average in January with most of it falling during a one-week period in mid-January. Precipitation for the water year is 108% of average. Low elevation snowpacks remain well above average with Prairie SNOTEL at 4,800 feet reporting 7.2 inches of snow water; average is 4.4 inches. However, as elevation increases, the snowpack decreases to near normal levels. Deadwood Summit SNOTEL site, elevation 6,860 feet, has 27.3 inches of snow water, 95% of average for February 1. This is only 57% of its normal peak of 48.2 inches that occurs on April 15. So, we still have a long ways to go. This site needs an average of 2.0 inches of snow water a week, an equivalent of 20 inches of new snowfall a week for the next 10 weeks! The Boise basin as a whole has a snowpack of 113% of average. The Weiser basin snowpack is 110% of average, more than twice the amount of snow measured a year ago. The Payette basin snowpack is normal at 102% of average, almost twice the amount of last year's snow. The Payette reservoir system is 46% full, 73% of average and should fill with normal runoff. The Boise reservoir system is 38% full, 66% of average and should also fill with normal spring and summer streamflow. Streamflow forecasts range from 95-105% of average for these west-central Idaho basins.

WEISER, PAYETTE, BOISE RIVER BASINS
Streamflow Forecasts - February 1, 2002

Forecast Point	Forecast Period	Future Conditions						30-Yr Avg. (1000AF)	
		Chance Of Exceeding *				Wetter			
		90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)		
WEISER near Weiser (1)	APR-SEP	195	346	415	99	484	635	420	
SF PAYETTE at Lowman	APR-JUL	304	364	405	92	446	506	440	
	APR-SEP	342	407	451	91	495	560	495	
DEADWOOD RESERVOIR Inflow (1,2)	APR-JUL	97	123	134	100	145	171	134	
	APR-SEP	101	128	140	99	152	179	142	
LAKE FORK PAYETTE near McCall	APR-JUL	69	78	84	99	90	99	85	
	APR-SEP	72	81	88	98	94	104	89	
NF PAYETTE at Cascade (1,2)	APR-JUL	338	452	504	103	556	670	490	
	APR-SEP	359	484	540	102	596	721	530	
NF PAYETTE nr Banks (2)	APR-JUL	486	588	657	102	726	828	645	
	APR-SEP	513	624	699	101	774	885	690	
PAYETTE nr Horseshoe Bend (1,2)	APR-JUL	1124	1445	1591	99	1737	2058	1610	
	APR-SEP	1238	1590	1750	100	1910	2262	1750	
BOISE near Twin Springs (1)	APR-JUL	447	570	625	98	680	803	635	
	APR-SEP	479	610	669	97	728	859	690	
SF BOISE at Anderson Ranch Dam (1,2)	APR-JUL	333	458	515	95	572	697	540	
	APR-SEP	347	483	545	94	607	743	580	
MORES CREEK near Arrowrock Dam	APR-JUL	99	123	140	107	157	181	131	
	APR-SEP	105	130	147	107	164	189	137	
BOISE near Boise (1,2)	APR-JUN	902	1141	1250	99	1359	1598	1260	
	APR-JUL	936	1234	1370	97	1506	1804	1410	
	APR-SEP	1045	1348	1485	97	1622	1925	1530	

WEISER, PAYETTE, BOISE RIVER BASINS
Reservoir Storage (1000 AF) - End of January

WEISER, PAYETTE, BOISE RIVER BASINS
Watershed Snowpack Analysis - February 1, 2002

Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
MANN CREEK	11.1	1.9	1.6	4.3	Mann Creek	1	204	119
CASCADE	693.2	338.5	415.4	448.4	Weiser River	3	220	110
DEADWOOD	164.0	53.6	92.7	86.3	North Fork Payette	8	198	100
ANDERSON RANCH	450.2	76.1	280.0	283.6	South Fork Payette	5	192	97
ARROWROCK	272.2	207.1	123.7	201.1	Payette Basin Total	14	189	102
LUCKY PEAK	293.2	107.6	106.8	106.6	Middle & North Fork Boise	6	182	100
LAKE LOWELL (DEER FLAT)	165.2	28.8	98.8	101.7	South Fork Boise River	9	182	113
					Mores Creek	5	150	122
					Boise Basin Total	16	171	113
					Canyon Creek	2	220	178

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

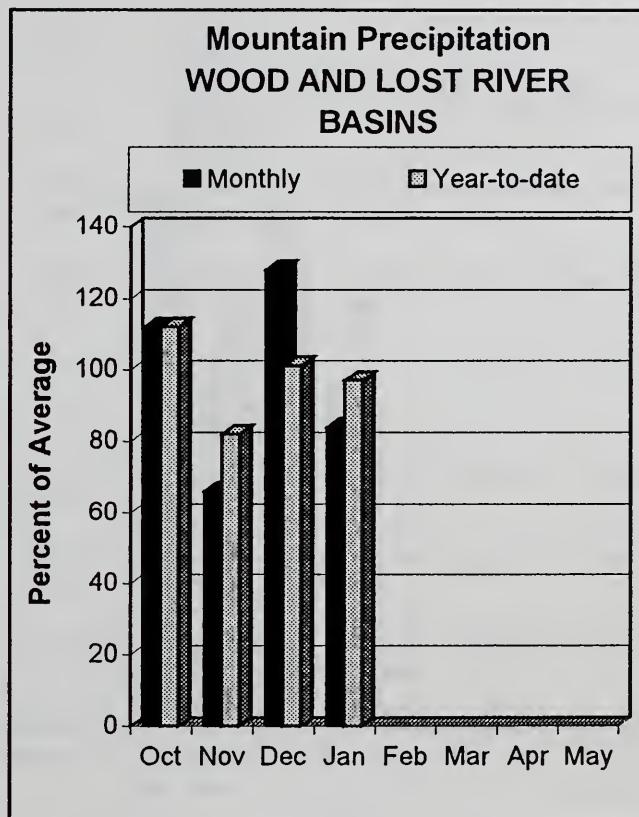
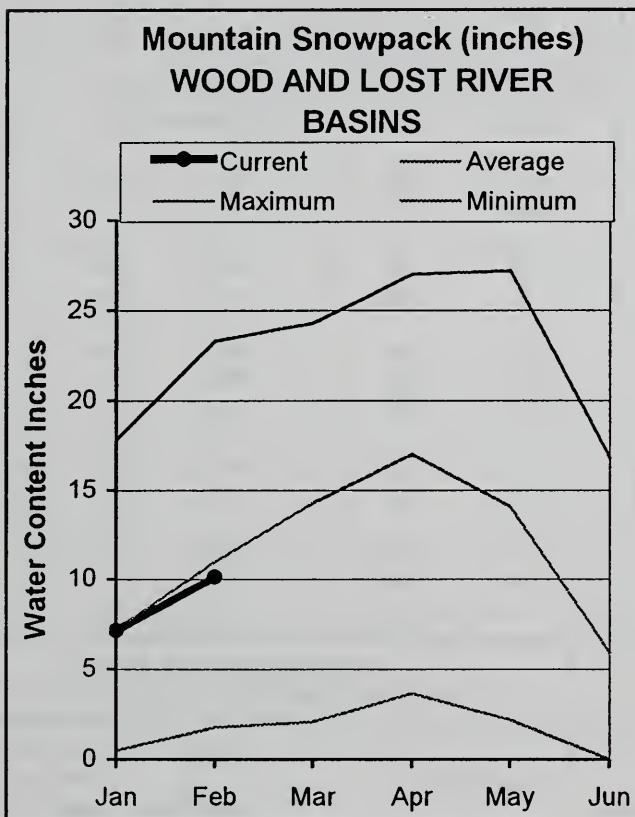
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(2) - The value is natural flow - actual flow may be affected by upstream water management.

WOOD and LOST RIVER BASINS

FEBRUARY 1, 2002



WATER SUPPLY OUTLOOK

January precipitation was 84% of average, almost twice the amount that fell last January. Precipitation for the water year is near normal at 97% of average. The last weekend in January brought about 20-30 inches of new snowfall and prompted many concerned citizens to call our office for snow load information. A quick formula for determining the ground snow load in (pounds/square feet) is to multiply the inches of snow water by 5.2 (more information is available on our Snowpack Information page <http://idsnow.id.nrcs.usda.gov/snow/mss.htm>). Snowpacks remain high in the low elevation drainage of Camas Creek at 135% of average. Elsewhere, snowpacks range from 84% of average in the Birch-Medicine Lodge basins to about 100% of average in the rest of these central Idaho basins. Magic Reservoir is nearly empty at 9% of capacity, the lowest January 31 level since 1995. Little Wood Reservoir is 30% of capacity, 56% of average; and Mackay Reservoir is 43% of capacity, 69% of average. Streamflow forecasts decreased slightly from last month and range from 80-95% of average. A soil moisture model in the Big Wood basin indicates a soil moisture deficit is present in the Chocolate Gulch and Hyndman SNOTEL site elevation bands. Approximately 0.6 inch of snowmelt is needed to recharge the soil profile. Additional snow is still needed to satisfy the numerous winter recreation and summer water needs in these basins. Let's hope the storms keep coming for the second half of winter.

WOOD AND LOST RIVER BASINS
Streamflow Forecasts - February 1, 2002

Forecast Point	Forecast Period	<===== Drier ===== Future Conditions ===== Wetter =====>						30-Yr Avg. (1000AF)	
		Chance Of Exceeding *		50% (Most Probable) (1000AF)		30% (1000AF)			
		90% (1000AF)	70% (1000AF)	(% AVG.)	(1000AF)	(1000AF)	(1000AF)		
BIG WOOD at Hailey (1)	APR-JUL	129	192	225	88	261	348	255	
	APR-SEP	145	214	250	86	289	384	290	
BIG WOOD near Bellevue	APR-JUL	76	119	153	81	192	256	188	
	APR-SEP	86	130	166	83	206	272	200	
CAMAS CREEK near Blaine	APR-JUL	62	90	111	112	135	174	99	
	APR-SEP	64	91	113	112	137	176	101	
BIG WOOD below Magic Dam (2)	APR-JUL	121	215	278	96	341	435	290	
	APR-SEP	128	225	290	95	355	452	305	
LITTLE WOOD near Carey (2)	MAR-JUL	52	72	86	90	100	120	96	
	MAR-SEP	58	79	94	90	109	130	104	
BIG LOST at Howell Ranch	APR-JUN	89	112	127	95	142	165	134	
	APR-JUL	104	139	163	95	187	222	172	
	APR-SEP	121	160	187	95	214	253	197	
BIG LOST below Mackay Reservoir (2)	APR-JUL	66	100	123	87	146	180	142	
	APR-SEP	86	123	148	86	173	210	173	
LITTLE LOST blw Wet Creek	APR-JUL	18.7	23	27	86	30	34	31	
	APR-SEP	24	30	34	86	38	44	39	

WOOD AND LOST RIVER BASINS Reservoir Storage (1000 AF) - End of January					WOOD AND LOST RIVER BASINS Watershed Snowpack Analysis - February 1, 2002			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of Last Yr Average	
		This Year	Last Year	Avg				
MAGIC	191.5	16.4	42.9	85.0	Big Wood ab Hailey	8	155	93
LITTLE WOOD	30.0	9.1	14.0	16.3	Camas Creek	5	202	135
MACKAY	44.4	19.1	19.4	27.7	Big Wood Basin Total	12	169	105
					Little Wood River	4	138	89
					Fish Creek	3	218	118
					Big Lost River	6	147	96
					Little Lost River	3	134	90
					Birch-Medicine Lodge Cree	2	115	84
					Camas-Beaver Creeks	4	182	109

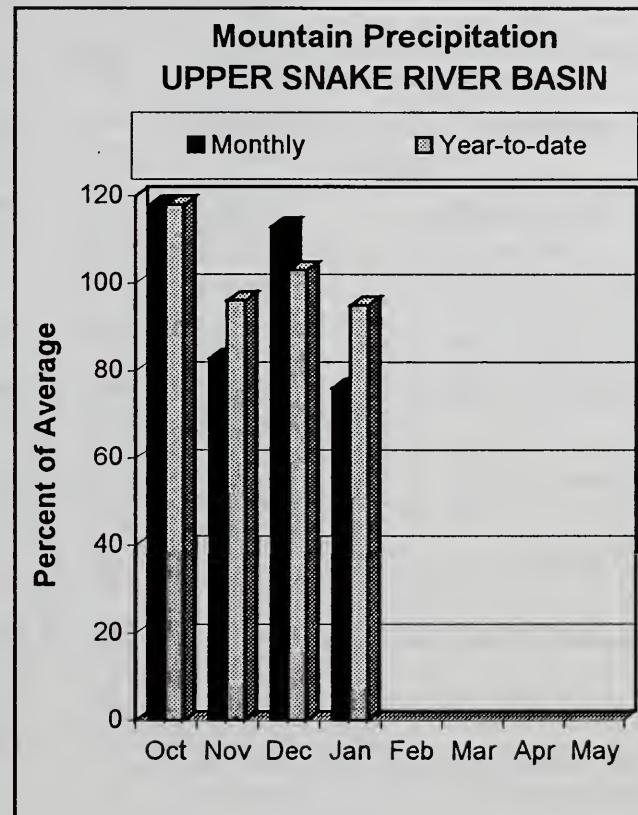
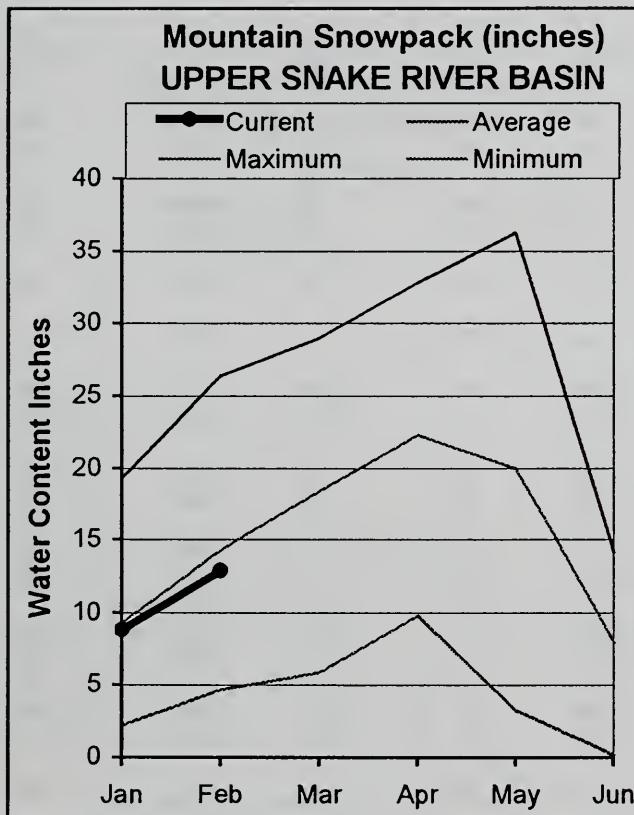
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UPPER SNAKE RIVER BASIN

FEBRUARY 1, 2002



WATER SUPPLY OUTLOOK

Precipitation in January was 76% of average, three times the amount that fell last January. Water year to date precipitation is 95% of average. Eastern Idaho hosts some of the lowest snowpack percentages in the state. Snowpacks are about 83% of average in the tributaries above Palisades Reservoir. The snowpack in the Henrys Fork-Falls River fairs slightly better at 92% of average. The low elevation snowpack in the Willow, Blackfoot and Portneuf basins is near normal at 93-104% of average. Lewis Lake Divide SNOTEL in Yellowstone National Park is 82% of average with 18.9 inches of snow water, twice the amount of last year's snow at this time. However, Lewis Lake has only half of its normal peak snow water content of 36.7 inches that occurs on April 14. Lewis Lake needs about 18 inches of snow water in the next 10 weeks or about 2 inches of snow water a week in order to return to normal levels by mid-April. This is equivalent to 20 inches of snowfall a week. The good news is that the snowpack has returned to near normal levels by early April. Four out of 16 years with a similar February 1 snowpack returned to normal conditions by early April. The 8 major reservoirs in the upper Snake basin are 40% full, 59% of average. January 31 combined storage in Jackson and Palisades reservoirs is the lowest since January 1993 and third lowest since 1958. Streamflow forecasts remained about the same as last month and call for 75-90% of average. With about 40% of the winter still to come, let's hope the second half of the season brings more snow and returns the snowpack to near normal conditions.

UPPER SNAKE RIVER BASIN
Streamflow Forecasts - February 1, 2002

Forecast Point	Forecast Period	Future Conditions				<==== Drier ===== Wetter =====>		30-Yr Avg. (1000AF)	
		Chance Of Exceeding *							
		90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)		
HENRYS FORK near Ashton (2)	APR-JUL	373	426	462	81	498	551	570	
	APR-SEP	504	567	610	80	653	716	760	
HENRYS FORK near Rexburg (2)	APR-JUL	793	958	1070	69	1182	1347	1560	
	APR-SEP	986	1173	1300	65	1427	1614	2010	
FALLS near Squirrel (1,2)	APR-JUL	234	290	315	82	340	396	385	
	APR-SEP	283	343	370	81	397	457	455	
TETON near Driggs	APR-JUL	97	126	145	88	164	193	165	
	APR-SEP	126	161	185	88	209	244	210	
TETON near St. Anthony	APR-JUL	244	304	345	85	386	446	405	
	APR-SEP	290	358	405	84	452	520	480	
SNAKE near Moran (1,2)	APR-SEP	584	715	775	86	835	966	905	
PACIFIC CREEK at Moran	APR-SEP	115	135	149	84	163	183	178	
SNAKE above Palisades (2)	APR-JUL	1748	1975	2130	90	2285	2512	2370	
	APR-SEP	2020	2279	2455	90	2631	2890	2730	
GREYS above Palisades	APR-JUL	227	274	305	90	336	383	340	
	APR-SEP	269	320	355	90	390	441	395	
SALT near Etna	APR-JUL	206	264	303	89	342	400	340	
	APR-SEP	256	324	370	88	416	484	420	
PALISADES RESERVOIR INFLOW (1,2)	APR-JUL	2056	2588	2830	85	3072	3604	3330	
	APR-SEP	2379	2978	3250	84	3522	4121	3870	
SNAKE near Heise (2)	APR-JUL	2331	2723	2990	84	3257	3649	3560	
	APR-SEP	2699	3146	3450	83	3754	4201	4160	
BLACKFOOT RESV INFLOW	APR-JUN	43	71	91	76	111	139	120	
SNAKE nr Blackfoot (1,2)	APR-JUL	2526	3443	3860	73	4277	5194	5260	
	APR-SEP	3233	4249	4710	72	5171	6187	6540	
PORTNEUF at Topaz	MAR-JUL	58	69	76	85	83	94	89	
	MAR-SEP	71	83	92	84	101	113	109	
AMERICAN FALLS RESV INFLOW (1,2)	APR-JUL	871	1847	2290	71	2733	3709	3240	
	APR-SEP	892	2019	2530	72	3041	4168	3510	

UPPER SNAKE RIVER BASIN
Reservoir Storage (1000 AF) - End of January

UPPER SNAKE RIVER BASIN
Watershed Snowpack Analysis - February 1, 2002

Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
HENRYS LAKE	90.4	54.5	84.8	83.2	Henrys Fork-Falls River	10	182	92
ISLAND PARK	135.2	83.2	111.6	102.2	Teton River	8	127	83
GRASSY LAKE	15.2	9.4	12.7	11.8	Henrys Fork above Rexburg	18	156	88
JACKSON LAKE	847.0	146.3	635.2	490.1	Snake above Jackson Lake	9	164	82
PALISADES	1400.0	489.2	638.7	1040.3	Gros Ventre River	4	149	85
RIRIE	80.5	29.4	41.4	35.8	Hoback River	6	139	82
BLACKFOOT	348.7	107.1	203.2	220.1	Greys River	5	138	83
AMERICAN FALLS	1672.6	923.7	1128.0	1125.4	Salt River	5	131	82
					Snake above Palisades	30	149	82
					Willow Creek	7	139	101
					Blackfoot River	4	150	93
					Portneuf River	5	174	104
					Snake abv American Falls	43	149	87

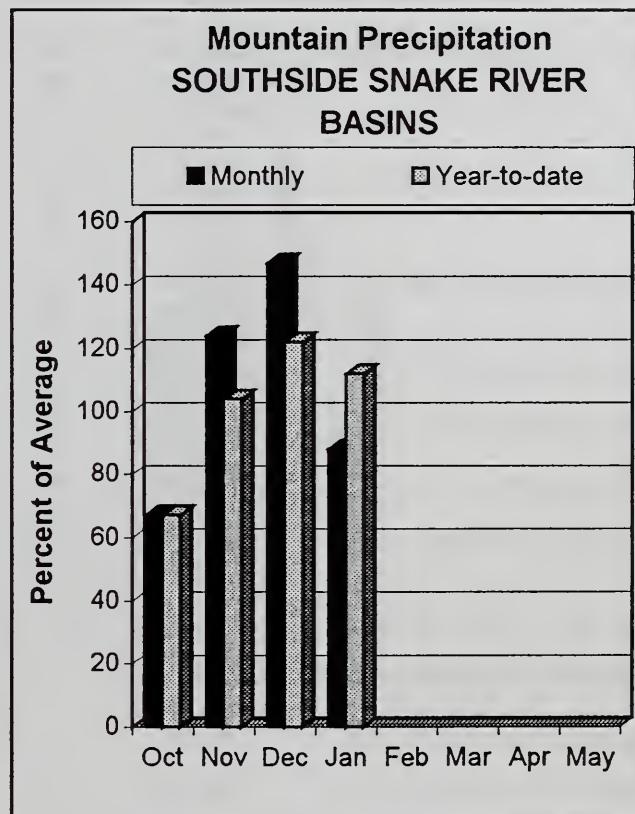
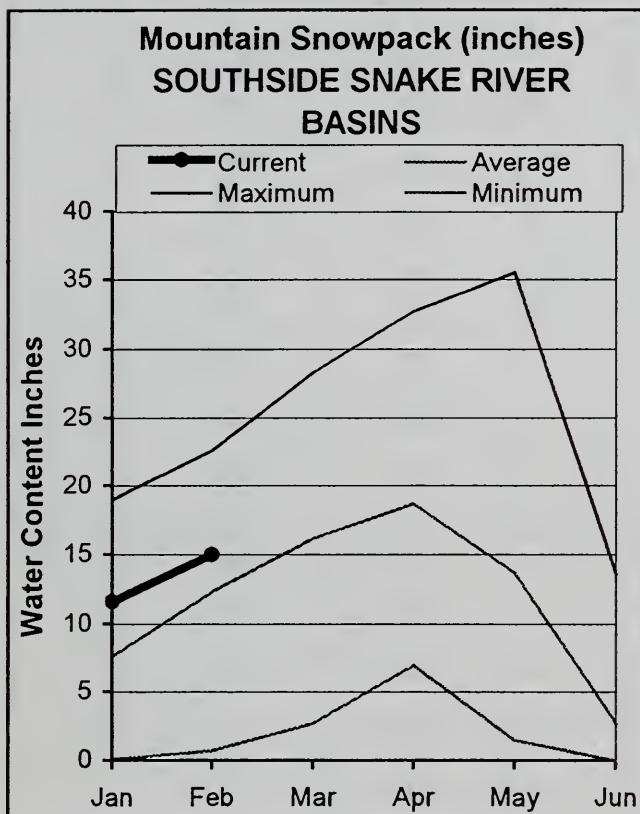
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SOUTHSIDE SNAKE RIVER BASINS

FEBRUARY 1, 2002



WATER SUPPLY OUTLOOK

After December's precipitation of 150% of average, January brought slightly below normal at 88% of average. Water year to date precipitation remains above average at 112%. Snowpacks remain the highest in the state at 125% of average in the Bruneau, Salmon Falls, Oakley and Raft basins. The low elevation Owyhee basin is 144% of average as a result of the good snowfall in the low to mid-elevations across southern Idaho. Reservoirs remain low with Salmon Falls Reservoir at 7% full, 22% of average; Oakley Reservoir at 16% full, 43% of average; Owyhee Reservoir at 19% full, 31% of average. Brownlee Reservoir fairs better at 77% full, 93% of average in order to maximize hydropower production. Streamflow forecasts range from 85-115% of average for these high desert streams. The lowest streamflow forecast in the state is the adjusted flow in the Snake River below Milner Dam - about 65% of average. Snake River at Hells Canyon is forecast at 72% of average. With two months of winter still to come (hopefully), the snowpack in these desert basins is looking good at 75-80% of the April 1 snow water content peaks. However, with the lack of moisture last fall, a soil moisture deficit exists and several inches of snowmelt water will percolate into the ground to recharge the soil moisture. Spring rains could help offset this deficit, so keep those fingers crossed and hope for snow or spring rains or both!

SOUTHSIDE SNAKE RIVER BASINS
Streamflow Forecasts - February 1, 2002

Forecast Point	Forecast Period	<===== Drier ===== Future Conditions ===== Wetter =====>						30-Yr Avg. (1000AF)	
		Chance Of Exceeding *							
		90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)		
OAKLEY RESV INFLOW	MAR-JUL	17.6	24	29	86	35	44	34	
	MAR-SEP	19.6	27	32	87	38	47	37	
OAKLEY RESV STORAGE	FEB-28	13.0	14.4	15.4	49	16.4	17.8	31	
	MAR-31	16.7	19.1	21	58	22	25	36	
	APR-30	19.6	23	26	62	28	32	41	
SALMON FALLS CREEK nr San Jacinto	MAR-JUN	52	69	82	92	96	119	89	
	MAR-JUL	54	72	86	92	101	125	93	
	MAR-SEP	57	76	90	92	106	131	98	
SALMON FALLS RESV STORAGE	FEB-28	12.1	15.0	17.0	28	19.0	22	60	
	MAR-31	20	27	31	44	35	42	70	
	APR-30	39	46	52	58	57	64	89	
BRUNEAU near Hot Spring	MAR-JUL	166	212	247	103	285	345	240	
	MAR-SEP	171	219	255	102	294	355	250	
OWYHEE near Gold Creek (2)	MAR-JUL	17.8	26	33	103	41	53	32	
OWYHEE nr Owyhee (2)	APR-JUL	39	66	84	102	102	129	82	
OWYHEE near Rome	FEB-JUL	528	704	838	128	984	1220	655	
OWYHEE RESV INFLOW (2)	FEB-JUL	511	686	820	117	966	1202	700	
	FEB-SEP	540	718	854	117	1002	1240	730	
SUCCOR CK nr Jordan Valley	FEB-JUL	12.6	19.7	25	127	29	36	19.3	
SNAKE RIVER at King Hill (1,2)	APR-JUL			1910	63			3040	
SNAKE RIVER near Murphy (1,2)	APR-JUL			1990	64			3090	
SNAKE RIVER at Weiser (1,2)	APR-JUL			4090	71			5760	
SNAKE RIVER at Hells Canyon Dam (1,2)	APR-JUL			4670	72			6490	
SNAKE blw Lower Granite Dam (1,2)	APR-JUL	11485	17891	20800	97	23709	30115	21500	

SOUTHSIDE SNAKE RIVER BASINS
Reservoir Storage (1000 AF) - End of January

SOUTHSIDE SNAKE RIVER BASINS
Watershed Snowpack Analysis - February 1, 2002

Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
OAKLEY	74.5	12.0	23.4	28.2	Raft River	2	187	130
SALMON FALLS	182.6	12.4	17.6	55.7	Goose-Trapper Creeks	3	187	124
WILDHORSE RESERVOIR	71.5	21.6	35.6	38.9	Salmon Falls Creek	7	155	124
OWYHEE	715.0	135.9	270.3	438.3	Bruneau River	8	159	124
BROWNLEE	1419.3	1099.5	1292.5	1176.3	Owyhee Basin Total	20	165	144

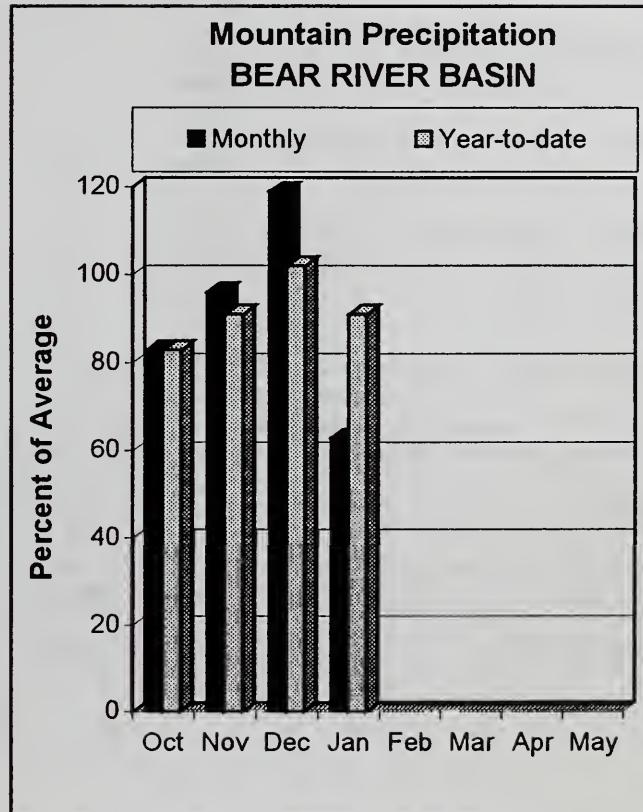
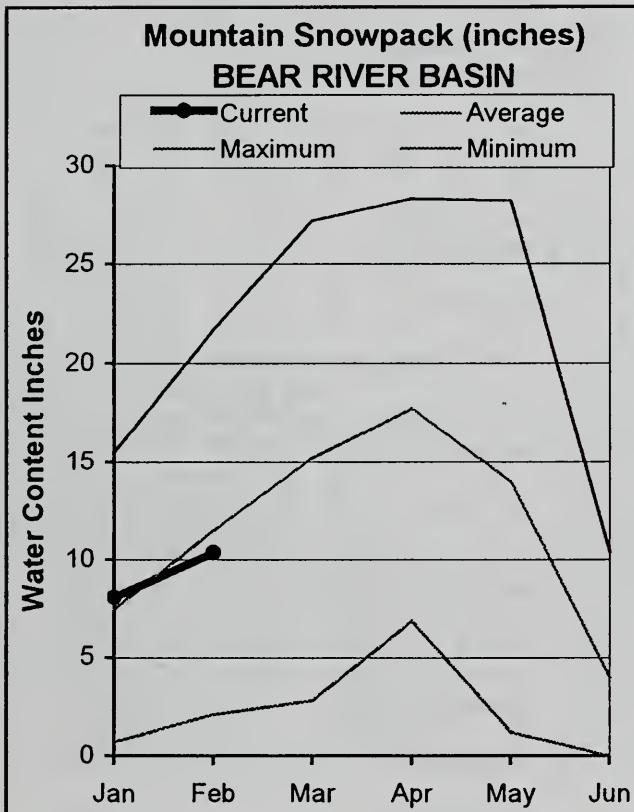
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BEAR RIVER BASIN

FEBRUARY 1, 2002



WATER SUPPLY OUTLOOK

January precipitation was the lowest in the state at 63% of average. Precipitation for the water year is 91% of average, also the lowest in the state. Snowpack percentages decreased 15-25 percentage points in January. The snowpacks now range from 80-90% of average for most basins in the Bear River. The Malad basin is reporting a snowpack of 127% of average due to only one low elevation SNOTEL site, Oxford Spring. The high elevation snowpack, especially in the headwaters of Utah, is only 70-80% of average. The Trail Lake SNOTEL station that sits at an elevation of 9,960 feet, is only 70% of average with 11.4 inches of snow water. Average February 1 snow water content is 15.2 inches. Bear Lake is storing 582,700 acre-feet of water, the lowest January 31 level since 1995. Montpelier Creek Reservoir is 23% of capacity, 53% of average. Streamflow forecasts decreased 10-15 percentage points from last month and now call for 69-78% of average. With about 40% of the winter season still to come, lets hope Mother Nature brings more snow not just for the Olympics but also for winter recreationists and the numerous water users in the Bear.

BEAR RIVER BASIN
Streamflow Forecasts - February 1, 2002

Forecast Point	Forecast Period	<===== Drier ===== Future Conditions ===== Wetter =====>				30-Yr Avg. (1000AF)		
		90% (1000AF)	70% (1000AF)	Chance Of Exceeding * 50% (Most Probable) (1000AF)	30% (1000AF) 10% (1000AF)			
BEAR R nr Randolph, UT	APR-JUL	14.0	57	87	76	117	160	115
	APR-SEP	13.0	62	95	76	128	177	125
SMITHS FK nr Border, WY	APR-JUL	52	67	79	78	93	119	102
	APR-SEP	62	78	91	77	107	134	118
THOMAS FK nr WY-ID State Line (Disc.)	APR-JUL			Much Below Average				33
	APR-SEP			Much Below Average				36
BEAR R blw Stewart Dam nr Montpelier	APR-JUL	94	157	200	69	243	306	288
	APR-SEP	107	178	227	69	276	347	327
MONTPELIER CK nr Montpelier (Disc.) (2)	APR-JUL			Much Below Average				12.2
	APR-SEP			Much Below Average				14.2
CUB R nr Preston	APR-JUL			Below Average				47

BEAR RIVER BASIN Reservoir Storage (1000 AF) - End of January				BEAR RIVER BASIN Watershed Snowpack Analysis - February 1, 2002			
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of Last Yr Average
		This Year	Last Year	Avg			
BEAR LAKE	1421.0	582.7	874.4	906.1	Smiths & Thomas Forks	4	136 84
MONTPELIER CREEK	4.0	0.9	1.3	1.7	Bear River ab WY-ID line	5	138 84
					Montpelier Creek	2	127 84
					Mink Creek	1	153 89
					Cub River	1	149 92
					Bear River ab ID-UT line	12	144 88
					Malad River	1	177 127

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1971-2000 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
 (2) - The value is natural flow - actual flow may be affected by upstream water management.

Streamflow Adjustment List For All Forecasts Published In Idaho Basin Outlook Report Streamflow forecasts are projections of runoff volumes that would have occurred naturally without influences from upstream reservoirs or diversions. These values are referred to as natural or adjusted flows. To make these adjustments, changes in reservoir storage, diversions, and inter-basin transfers are added or subtracted from the observed (actual) streamflow volumes. The following list documents the adjustments made to each forecast point in this report. (Revised 12/2000).

Panhandle River Basins

KOOTENAI R AT LEONIA, ID
+ LAKE KOOCANUSA (STORAGE CHANGE)
BOUNDARY CREEK NEAR PORTHILL, ID - No Corrections
MOYIE RIVER AT EASTPORT, ID - No Corrections
SMITH CREEK NEAR PORTHILL, ID - No Corrections
CLARK FORK AT WHITEHORSE RAPIDS, ID
+ HUNGRY HORSE (STORAGE CHANGE)
+ FLATHEAD LAKE (STORAGE CHANGE)
+ NOXON RAPIDS RESV (STORAGE CHANGE)
PEND OREILLE LAKE INFLOW, ID

+ PEND OREILLE R AT NEWPORT, WA
+ HUNGRY HORSE (STORAGE CHANGE)
+ FLATHEAD LAKE (STORAGE CHANGE)
+ NOXON RAPIDS (STORAGE CHANGE)
+ PEND OREILLE LAKE (STORAGE CHANGE)
+ PRIEST LAKE (STORAGE CHANGE)
PRIEST R NR PRIEST R, ID
+ PRIEST LAKE (STORAGE CHANGE)
COEUR D'ALENE R AT ENAVILLE, ID - No Corrections
ST. JOER AT CALDER, ID - No Corrections
SPOKANE R NR POST FALLS, ID
+ COEUR D'ALENE LAKE (STORAGE CHANGE)
SPOKANE R AT LONG LAKE, WA
+ COEUR D'ALENE LAKE (STORAGE CHANGE)
+ LONG LAKE, WA (STORAGE CHANGE)

Clearwater River Basin

DWORSHAK RESERVOIR INFLOW, ID
+ DWORSHAK RESV (STORAGE CHANGE)
- CLEARWATER R AT OROFINO, ID
+ CLEARWATER R NR PECK, ID
LOCHSA RIVER NR LOWELL - No Corrections
SELWAY RIVER NR LOWELL - No Corrections
CLEARWATER R AT OROFINO, ID - No Corrections
CLEARWATER R AT SPALDING, ID
+ DWORSHAK RESV (STORAGE CHANGE)

Salmon River Basin

SALMON R AT SALMON, ID - No Corrections
SALMON R AT WHITE BIRD, ID - No Corrections

Weiser, Payette, Boise River Basins

WEISER R NR WEISER, ID - No Corrections
SF PAYETTE R AT LOWMAN, ID - No Corrections
DEADWOOD RESERVOIR INFLOW, ID
+ DEADWOOD R BLW DEADWOOD RESV NR LOWMAN
+ DEADWOOD RESV (STORAGE CHANGE)
LAKE FORK PAYETTE RIVER NR MCCALL, ID - No Corrections
NF PAYETTE R AT CASCADE, ID
+ CASCADE RESV (STORAGE CHANGE)

NF PAYETTE R NR BANKS, ID

+ CASCADE RESV (STORAGE CHANGE)
PAYETTE R NR HORSESHOE BEND, ID
+ DEADWOOD RESV (STORAGE CHANGE)
+ CASCADE RESV (STORAGE CHANGE)
BOISE R NR TWIN SPRINGS, ID - No Corrections
SF BOISE R AT ANDERSON RANCH DAM, ID
+ ANDERSON RANCH RESV (STORAGE CHANGE)
BOISE R NR BOISE, ID
+ ANDERSON RANCH RESV (STORAGE CHANGE)
+ ARROWROCK RESV (STORAGE CHANGE)
+ LUCKY PEAK RESV (STORAGE CHANGE)

Wood and Lost River Basins

BIG WOOD R AT HAILEY, ID - No Corrections
BIG WOOD R NR BELLEVUE, ID - No Corrections
CAMSAS CREEK NEAR BLAINE - No Corrections
BIG WOOD R BLW MAGIC DAM NR RICHFIELD, ID
+ MAGIC RESV (STORAGE CHANGE)
LITTLE WOOD R NR CAREY, ID
+ LITTLE WOOD RESV (STORAGE CHANGE)
BIG LOST R AT HOWELL RANCH NR CHILLY, ID - No Corrections
BIG LOST R BLW MACKAY RESV NR MACKAY, ID
+ MACKAY RESV (STORAGE CHANGE)
LITTLE LOST R BLW WET CK NR HOWE, ID - No Corrections

Upper Snake River Basin

HENRYS FORK NR ASHTON, ID
+ HENRYS LAKE (STORAGE CHANGE)
+ ISLAND PARK RESV (STORAGE CHANGE)
HENRYS FORK NR REXBURG, ID
+ HENRYS LAKE (STORAGE CHANGE)
+ ISLAND PARK RESV (STORAGE CHANGE)
+ DIV FM HENRYS FK BTW ASHTON & ST. ANTHONY, ID
+ DIV FM HENRYS FK BTW ST. ANTHONY & REXBURG, ID
+ GRASSY LAKE (STORAGE CHANGE)
FALLS R ABV YELLOWSTONE CANAL NR SQUIRREL, ID
+ GRASSY LAKE (STORAGE CHANGE)
TETON R ABV SO LEIGH CK NR DRIGGS, ID - No Corrections
TETON R NR ST. ANTHONY, ID
- CROSS CUT CANAL
+ SUM OF DIVERSIONS ABV GAGE

SNAKE R NR MORAN, WY
+ JACKSON LAKE (STORAGE CHANGE)
PALISADES RESERVOIR INFLOW, ID
+ SNAKE R NR IRWIN, ID
+ JACKSON LAKE (STORAGE CHANGE)
+ PALISADES RESV (STORAGE CHANGE)

SNAKE R NR HEISE, ID
+ JACKSON LAKE (STORAGE CHANGE)
+ PALISADES RESV (STORAGE CHANGE)

BLACKFOOT RESERVOIR INFLOW, ID
 + BLACKFOOT RIVER
 + BLACKFOOT RESERVOIR (STORAGE CHANGE)

SNAKE R NR BLACKFOOT, ID
 + PALISADES RESV (STORAGE CHANGE)

+ JACKSON LAKE (STORAGE CHANGE)

+ DIV FM SNAKE R BTW HEISE AND SHELLY GAGES

+ DIV FM SNAKE R BTW SHELLY AND BLACKFT, ID

PORTNEUF R AT TOPAZ, ID - No Corrections

AMERICAN FALLS RESERVOIR INFLOW, ID

+ SNAKE RIVER AT NEELEY

+ ALL CORRECTIONS MADE FOR HENRYS FK NR REXBURG, ID

+ JACKSON LAKE (STORAGE CHANGE)

+ PALISADES RESV (STORAGE CHANGE)

+ DIV FM SNAKE R BTW HEISE AND SHELLY GAGES

+ DIV FM SNAKE R BTW SHELLY AND BLACKFT GAGES

Southside Snake River Basins

OAKLEY RESERVOIR INFLOW, ID

+ GOOSE CK ABV TRAPPER CK NR OAKLEY, ID

+ TRAPPER CK NR OAKLEY, ID

SALMON FALLS CK NR SAN JACINTO, NV - No Corrections

BRUNEAU R NR HOT SPRINGS, ID - No Corrections

OWYHEE R NR GOLD CK, NV

+ WILDHORSE RESV (STORAGE CHANGE)

OWYHEE R NR Owyhee, NV

+ WILDHORSE RESV (STORAGE CHANGE)

OWYHEE R NR ROME, OR - No Corrections

OWYHEE RESERVOIR INFLOW, OR

+ Owyhee R Blw Owyhee Dam, OR

+ Owyhee RESV (STORAGE CHANGE)

+ DIV TO NORTH AND SOUTH CANALS

SUCCOR CK NR JORDAN VALLEY, OR - No Corrections

SNAKE R - KING HILL, ID - No Corrections

SNAKE R NR MURPHY, ID - No Corrections

SNAKE R AT WEISER, ID - No Corrections

SNAKE R AT HELLS CANYON DAM, ID

+ BROWNLEE RESV (STORAGE CHANGE)

Bear River Basin

BEAR R NR RANDOLPH, UT

+ SULPHUR CK RESV (STORAGE CHANGE)

+ CHAPMAN CANAL DIVERSION

+ WOODRUFF NARROWS RESV (STORAGE CHANGE)

SMITHS FORK NR BORDER, WY - No Corrections

THOMAS FORK NR WY-ID STATELINE - No Corrections (Disc)

BEAR R Blw STEWART DAM, ID

+ SULPHUR CK RESV (STORAGE CHANGE)

+ CHAPMAN CANAL DIVERSION

+ WOODRUFF NARROWS RESV (STORAGE CHANGE)

+ DINGLE INLET CANAL

+ RAINBOW INLET CANAL

MONTPELIER CK AT IRR WEIR NR MONTPELIER, ID (Disc)

+ MONTPELIER CK RESV (STORAGE CHANGE)

CUB R NR PRESTON, ID - No Corrections

RESERVOIR CAPACITY DEFINITIONS (Units in 1,000 acre-feet, KAF)
 Different agencies use various definitions when reporting reservoir capacity and contents.
 Reservoir storage terms include dead, inactive, active, and surcharge storage. This table lists these volumes for each reservoir, and defines the storage volumes NRCS uses when reporting capacity and current reservoir storage. In most cases, NRCS reports usable storage, which includes active and inactive storage. (Revised January 2002)

BASIN/ RESERVOIR	DEAD STORAGE	INACTIVE STORAGE	ACTIVE STORAGE	SURCHARGE STORAGE	NRCS CAPACITY CAPACITY INCLUDES
<u>PANHANDLE REGION</u>					
HUNGRY HORSE	39.73	--	3451.00	--	3451.0 ACTIVE
FLATHEAD LAKE	Unknown	--	1791.00	--	1971.0 ACTIVE
NOXON RAPIDS	Unknown	--	335.00	--	335.0 ACTIVE
PEND OREILLE	406.20	112.40	1042.70	--	1561.3 DEAD+INACTIVE+ACTIVE
COEUR D'ALENE	--	13.50	225.00	--	238.5 INACTIVE+ACTIVE
PRIEST LAKE	20.00	28.00	71.30	--	119.3 DEAD+INACTIVE+ACTIVE
<u>CLEARWATER BASIN</u>					
DUORSHAK	--	1452.00	2016.00	--	3468.0 INACTIVE+ACTIVE
<u>WEISER/BOISE/PAYETTE BASINS</u>					
MANN CREEK	1.61	0.24	11.10	--	11.1 ACTIVE
CASCADE	--	46.70	646.50	--	693.2 INACTIVE+ACTIVE
DEADWOOD	--	--	164.00	--	164.0 ACTIVE
ANDERSON RANCH	24.90	37.00	413.10	--	450.1 INACTIVE+ACTIVE
ARROWROCK	--	--	272.20	--	272.2 ACTIVE
LUCKY PEAK	--	28.80	264.40	13.80	293.2 INACTIVE+ACTIVE
LAKE LOWELL	7.90	5.80	159.40	--	165.2 INACTIVE+ACTIVE
<u>WOOD/LOST BASINS</u>					
MAGIC	--	--	191.50	--	191.5 ACTIVE
LITTLE WOOD	--	--	30.00	--	30.0 ACTIVE
MACKAY	0.13	--	44.37	--	44.4 ACTIVE
<u>UPPER SNAKE BASIN</u>					
HENRY'S LAKE	--	--	90.40	--	90.4 ACTIVE
ISLAND PARK	0.40	--	127.30	7.90	135.2 ACTIVE+SURCHARGE
GRASSY LAKE	--	--	15.18	--	15.2 ACTIVE
JACKSON LAKE	--	--	847.00	--	847.0 ACTIVE
PALISADES	44.10	155.50	1200.00	--	1400.0 DEAD+INACTIVE+ACTIVE
RIRIE	4.00	6.00	80.54	10.00	80.5 ACTIVE
BLACKFOOT	--	--	348.73	--	348.7 ACTIVE
AMERICAN FALLS	--	--	1672.60	--	1672.6 ACTIVE
<u>SOUTHSIDE SNAKE BASINS</u>					
OAKLEY	--	--	74.50	--	74.5 ACTIVE
SALMON FALLS	48.00	--	182.65	--	182.6 ACTIVE
WILDHORSE	--	--	71.50	--	71.5 ACTIVE
OWYHEE	406.83	--	715.00	--	715.0 ACTIVE
BROWNLEE	0.45	444.00	975.30	--	1419.3 INACTIVE+ACTIVE
<u>BEAR RIVER BASIN</u>					
WOODRUFF NARROWS	--	--	1.50	57.30	--
WOODRUFF CREEK	--	--	4.00	4.00	--
BEAR LAKE	--	--	1421.00	--	1421.0 ACTIVE
MONTPELIER CREEK	0.21	--	3.84	--	4.00 DEAD+ACTIVE

Interpreting Streamflow Forecasts

having too much water available during the forecast period, users can base their operational decisions on one of the forecasts with a smaller chance of being exceeded. These include:

30 Percent Chance of Exceeding Forecast. There is a 30 percent chance that the streamflow volume will exceed this forecast value. There is a 70 percent chance the streamflow volume will be less than this forecast value.

10 Percent Chance of Exceeding Forecast. there is a 10 percent chance that the streamflow volume will exceed this forecast value. There is a 90 percent chance the streamflow volume will be less than this forecast value.

Most Probable (50 Percent Chance of Exceeding) Forecast. This forecast is the best estimate of streamflow volume that can be produced given current conditions and based on the outcome of similar past situations. There is a 50 percent chance that the streamflow volume will exceed this forecast value. There is a 50 percent chance that the streamflow volume will be less than this forecast value.

The most probable forecast will rarely be exactly right, due to errors resulting from future weather conditions and the forecast equation itself. This does not mean that users should not use the most probable forecast; it means that they need to evaluate existing circumstances and determine the amount of risk they are willing to take by accepting this forecast value.

To Decrease the Chance of Having Too Little Water

If users want to make sure there is enough water available for their operations, they might determine that a 50 percent chance of the streamflow volume being lower than the most probable forecast is too much risk to take. To reduce the risk of not having enough water available during the forecast period, users can base their operational decisions on one of the forecasts with a greater chance of being exceeded (or possibly some point in-between). These include:

70 Percent Chance of Exceeding Forecast. There is a 70 percent chance that the streamflow volume will exceed this forecast value.

There is a 30 percent chance the streamflow volume will be less than this forecast value.

90 Percent Chance of Exceeding Forecast.

There is a 90 percent chance that the streamflow volume will exceed this forecast value.

There is a 10 percent chance the streamflow volume will be less than this forecast value.

To Decrease the Chance of Having Too Much Water

If users want to make sure they don't have too much water, they might determine that a 50 percent chance of the streamflow being higher than the most probable forecast is too much of a risk to take. To reduce the risk of

Using the forecasts - an example

Using the Most Probable Forecast. Using the example forecasts shown below, users can reasonably expect 36,000 acre-feet to flow past the gaging station on the Mary's River near Death between March 1 and July 31.

Using the Higher Exceedence Forecasts. If users anticipate a somewhat drier trend in the future (monthly and seasonal weather outlooks are available from the National Weather Service every two weeks), or if they are operating at a level where an unexpected shortage of water could cause problems, they might want to plan on receiving only 20,000 acre-feet (from the 70 percent chance of exceeding forecast). In seven out of ten years with similar conditions, streamflow volumes will exceed the 20,000 acre-foot forecast.

If users anticipate extremely dry conditions for the remainder of the season, or if they determine the risk of using the 70 percent chance of exceeding forecast is too great, then they might plan on receiving only 5000 acre-feet (from the 90 percent chance of exceeding forecast). Nine out of ten years with similar conditions, streamflow volumes will exceed the 5000 acre-foot forecast.

Using the Lower Exceedance Forecasts. If users expect wetter future conditions, or if the chance that five out of every ten years with similar conditions would produce streamflow volumes greater than 36,000 acre-feet was more than they would like to risk, they might plan on receiving 52,000 acre-feet (from the 30 percent chance of exceeding forecast) to minimize potential flooding problems. Three Out of ten years with similar conditions, streamflows will exceed the 52,000 acre-foot forecast.

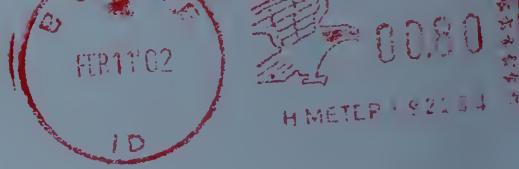
In years when users expect extremely wet conditions for the remainder of the season and the threat of severe flooding and downstream damage exists, they might choose to use the 76,000 acre-foot (10 percent chance of exceeding) forecast for their water management operations. Streamflow volumes will exceed this level only one year out of ten.

WEISER, PAYETTE, BOISE RIVER BASINS Streamflow Forecasts

Forecast Point	Forecast Period	<===== Drier =====>	Future Conditions	Chance Of Exceeding *	Wetter =====>
SF PAYETTE RIVER at Lomman	APR-JUL APR-SEP	329 369	414 459	50% (Most Probable) (1000AF) (1000AF)	30% (1000AF) (% AVG.) (1000AF)
BOISE RIVER near Twin Springs (1)	APR-JUL APR-SEP	443 495	610 670	109 750	10% (1000AF) (1000AF) (1000AF)
				528 583	613 673
				760 830	927 1005
				631	432 488

For more information concerning streamflow forecasting ask your local NRCS field office for a copy of "A Field Office Guide for Interpreting Streamflow Forecasts" or visit our Web page.

USDA Natural Resources Conservation Service
9173 West Barnes Drive, Suite C
Boise ID 83709-1574



OFFICIAL BUSINESS



Issued by

Pearlie S. Reed, Chief
Natural Resources Conservation Service
Washington, DC

Released by

Richard Sims, State Conservationist
Natural Resources Conservation Service
Boise, Idaho

Prepared by

Snow Survey Staff
Ron Abramovich, Water Supply Specialist
Philip Morrisey, Hydrologist
Kelly Vick, Data Analyst
Bill Patterson, Electronics Technician
Jeff Graham, Electronics Technician

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